

Inventors: Shaw et al.
Serial No. 10/662,171

PATENT APPLICATION
Navy Case 95,758

Amendments to the Claims:

1-17. (Cancelled)

18. (New) A method of building and maintaining an object-oriented database from a vector product format (VPF) database, said method comprising:

- instantiating objects of the object-oriented database, using the VPF database;
- initializing spatial and non-spatial feature data of the object-oriented database;
- spatially indexing data among objects across hierarchical levels of the object-oriented database;
- updating data of the object-oriented database; and
- exporting contents of the updated object-oriented database to the VPF database.

19. (New) A method of building and maintaining an object-oriented database from a vector product format (VPF) database, said method comprising:

- instantiating objects of the object-oriented database, using the VPF database;
- initializing spatial and non-spatial feature data of the object-oriented database;
- spatially indexing data among objects across hierarchical levels of the object-oriented database;

and

- updating spatial and non-spatial data.

20. (New) The method according to claim 19, wherein said initializing spatial and non-spatial feature data creates a feature level having

- non-spatial data which provides characteristic properties of each feature, and
- spatial data, including primitive data and topological information, which provides spatial relationships between a feature object and other feature objects within a specified coverage; and
- wherein related non-spatial and spatial data are directly accessible from the feature object.

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21. (New) The method according to claim 20, wherein said updating spatial and non-spatial data includes adding, changing, and deleting feature, primitive, and topological data within the database and further includes updating all object links referencing the feature, primitive, and topological data.

22. (New) The method according to claim 19, wherein said spatially indexing data is applied to one or more databases whose format comprises:

- a flat file;
- a raster product format;
- a vector product format; or
- a text format.

23. (New) The method according to claim 22, further comprising retrieving data objects matching a user-specified query based on at least one of the following data characteristics:

- feature attributes;
- geometrical constraints;
- topological constraints; and
- geographical constraints.

24. (New) The method according to claim 23, wherein said retrieving data objects includes retrieving:

- a flat file;
- a raster image;
- a VPF feature; or
- text data.